CERTIFICATE OF MAILING

I hereby certify that on January 10, 2001, this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service with sufficient postage in an envelope addressed to: Commissioner of Patents and Trademarks, Box Reissue Application, Washington, DC 20231.

37 C.F.R. § 1.8(a)
☐ with sufficient postage as first class mail

37 C.F.R. § 1.10
☒ as "Express Mail Post Office to Addressee" Mailing Label No.

EL700458736US

Joy Michaels
(Type or print name of person mailing paper)

Joy Michaels
(Signature of person mailing paper)

PATENT
Docket No. 18036-29

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application Of:

Lars G. Svensson, et al.

Serial Number:

Filing Date: Herewith

Entitled: SYSTEM AND METHOD FOR POWER-EFFICIENT CHARGING AND DISCHARGING OF A CAPACITIVE LOAD FROM A SINGLE SOURCE

PRELIMINARY AMENDMENT

Box Reissue Application
Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Please amend the above-captioned continuation reissue patent application as set forth below.

In the Specification:

On page 1 after the title insert the following:

--**Cross-Reference to Related Application**

This is a continuation of copending U.S. patent application Serial Number 08/986,327, filed December 5, 1997, which is a reissue of U.S. Patent 5,473,526 which issued December 5, 1995 and application Serial Number 231,637, filed April 22, 1998.--

In the Claims:

Please cancel without prejudice or disclaimer, claims 1-46. Original claims 1-11 are bracketed and attached herewith.

Please add claims 47-126 as follows:

47. A system for efficiently charging and discharging a capacitive load from a single voltage source of a first potential consisting of:

a first switch for selectively charging the load;

a second switch for selectively discharging the load;

plural capacitive elements; and

switch means for selectively connecting each of the capacitive elements to the capacitive load to gradually charge or discharge the capacitive load,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

48. The invention of claim 47 wherein said switch means includes plural third switches connected between said capacitive elements and said load.

49. The invention of claim 48 wherein said switch means includes means for selectively activating the first, second and third switches.

50. The invention of claim 49 wherein the capacitive load has a first terminal connected to the first switch and a second terminal connected to a source of a second potential.

51. The invention of claim 50 wherein the second switch has a first terminal connected to the first terminal of the load and a second terminal connected to said source of a second potential.

52. The invention of claim 51 wherein each of the third switches has a first terminal connected to the first terminal of the load and a second terminal connected to a first terminal of an associated one of the plural capacitive elements.

53. The invention of claim 52 wherein the means for selectively activating the first, second and third switches includes a finite state machine.

54. The invention of claim 53 wherein the finite state machine is designed to receive a clock signal and an input signal and provide selective activation signals for the first, second and third switches in response thereto.

55. The invention of claim 54 wherein a second terminal of each of the plural capacitive elements is connected to said source of a second potential.

56. The invention of claim 55 wherein each of the capacitive elements has a capacitance which is at least an order of magnitude greater than the capacitance of the load.

57. A method for efficiently charging and discharging a capacitive load from a single voltage source including the steps of:

providing a first switch for selectively connecting the voltage source to the load;

providing a second switch for selectively providing a short across the load;

providing plural capacitive elements;

providing plural third switches for selectively connecting each of the capacitive elements to the capacitive load; and

selectively activating the first, second and third switches to gradually charge or discharge the capacitive load,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

58. A system for charging and discharging a capacitive load, comprising:

a first switch to charge the load;

a second switch to discharge the load;

a capacitive element; and

a switch assembly to connect and disconnect the capacitive element to and from the capacitive load to gradually charge or discharge the capacitive load in conjunction with the operation of said first switch and said second switch,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

59. The system of claim 58 wherein said switch assembly includes a third switch connected between said capacitive element and said capacitive load.

60. The system of claim 59 wherein said switch assembly includes means for selectively activating the first, second and third switches.

61. The system of claim 60 wherein the capacitive load has a first terminal connected to the first switch and a second terminal connected to a source of a potential.

62. The system of claim 61 wherein the second switch has a first terminal connected to the first terminal of the capacitive load and a second terminal connected to said source of a potential.

63. The system of claim 62 wherein said third switch has a first terminal connected to the first terminal of the capacitive load and a second terminal connected to a first terminal of said capacitive element.

64. The system of claim 58 wherein said switch assembly includes a finite state machine.

65. The system of claim 59 wherein the switch assembly includes a control circuit for providing selective activation signals for the first, second and third switches.

66. The system of claim 65 wherein a second terminal of said capacitive element is connected to said source of a potential.

67. The system of claim 66 wherein a capacitance of said capacitive element is at least an order of magnitude greater than a capacitance of the capacitive load.

68. The system of claim 58, further comprising:

at least two capacitive elements,

such that said switch assembly selectively connects each of said at least two capacitive elements to the capacitive load.

69. The system of claim 58, wherein said capacitive element is a capacitor.

70. The system of claim 58, wherein said switch assembly includes a control circuit.

71. The system of claim 58, wherein said switch assembly includes a control circuit embodying a plurality of MOSFETS.

72. A system for charging and discharging a capacitive load from a voltage source comprising:

a first switch to charge the load;

a second switch to discharge the load;

a capacitive element; and

a switch assembly to connect and disconnect the capacitive element to and from the capacitive load to charge or discharge the capacitive load in a plurality of steps,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

73. A method for charging and discharging a capacitive load from a voltage source comprising:

charging the capacitive load with the voltage source;

discharging the capacitive load by connecting the capacitive load through a switch assembly to at least one capacitive element; and

disconnecting the at least one capacitive element from the capacitive load,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

74. The method of claim 73, further comprising:

operating the switch assembly to sequentially discharge the capacitive load through at least two capacitive elements.

75. A method for charging and discharging a capacitive load from a voltage source comprising:

charging the capacitive load with the voltage source;

temporarily storing the charge from the capacitive load for use in a subsequent charging step in a capacitive element; and

disconnecting the capacitive element from the capacitive load,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

76. A system for charging and discharging a load with a source comprising:

a first switch to charge the load;

a second switch to discharge the load;

a capacitive element; and

a third switch to selectively connect and disconnect the capacitive element to and from the load,

whereby energy is recovered from the load and is always stored substantially only in capacitance.

77. A system for at least one of charging and discharging a capacitive load in N steps, N being greater than 1, comprising:

N-1 capacitive devices; and

a first switching device operable to selectively couple and de-couple the N-1 capacitive devices to and from the capacitive load during at least one of a charging and a discharging of the capacitive load,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

78. A system of claim 77, wherein the first switching device is operable to selectively couple and de-couple the N-1 capacitive devices to and from the capacitive load during both the charging and the discharging of the capacitive load.

79. The system of claim 77, wherein each of the N-1 capacitive devices includes a capacitor.

80. The system of claim 79, wherein a capacitance of the capacitor is greater than a capacitance of the capacitive load.

81. The system of claim 77, wherein the first switching device includes a MOSFET.

82. The system of claim 77, wherein the selective coupling and de-coupling of the N-1 capacitive devices to the capacitive load causes at least one of the charging and the discharging of the capacitive load to occur in the N steps.

83. The system of claim 77, further comprising:

a second switching device operable to selectively couple the capacitive load to a voltage source; and

a third switching device operable to selectively provide a short across the capacitive load.

84. A system for at least one of charging and discharging a capacitive load comprising:

a plurality of capacitive devices; and

a first switching device operable to selectively couple and de-couple the plurality of capacitive devices to and from the capacitive load during at least one of a charging and a discharging of the capacitive load,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

85. The system of claim 84, wherein the first switching device includes a plurality of MOSFETs.

86. The system of claim 84, wherein the first switching device is operable to selectively couple and de-couple the plurality of capacitive devices to and from the capacitive load during both the charging and the discharging of the capacitive load.

87. The system of claim 84, wherein each of the plurality of capacitive devices includes a capacitor.

88. The system of claim 87, wherein a capacitance of the capacitor is greater than a capacitance of the capacitive load.

89. The system of claim 84, wherein the selective coupling and de-coupling of the plurality of capacitive devices to and from the capacitive load causes at least one of the charging and the discharging of the capacitive load to occur in a plurality of steps.

90. The system of claim 84, comprising:

a second switching device operable to selectively couple the capacitive load to a voltage source; and

a third switching device operable to selectively provide a short across the capacitive load.

91. A method for at least one of charging and discharging a capacitive load comprising:

selectively coupling and de-coupling a capacitive device to and from the capacitive load to cause at least one of the charging and the discharging of the capacitive load to occur in a plurality of steps,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

92. A method of charging and discharging a capacitive load in N steps, N being greater than 1, comprising:

charging the capacitive load;

discharging the capacitive load;

storing at least a portion of a charge discharged during the discharging step in N-1 capacitive devices for use in a subsequent charging step; and

disconnecting each of the capacitive devices from the load at some point during the N steps,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

93. A system for charging and discharging a capacitive load, comprising:

a discharge switch to discharge the load;

N-1 capacitive elements, N being greater than 1;

a switch assembly including N-1 switches to respectively couple and de-couple the N-1 capacitive to and from the load to charge or discharge the load; and

an Nth switch to couple the load to a power supply voltage,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

94. The system of claim 93 wherein N is an integer having a value of at least 2.

95. The system of claim 93 wherein N=2.

96. The system of claim 93 wherein first leads of each of said N-1 capacitive elements are connected together and wherein second leads of each of said N-1 capacitive elements are connected to respective ones of said N-1 switches.

97. A system for charging and discharging a capacitive load, comprising:

a discharge switch to discharge the load;

N-1 capacitive elements, N being greater than 1;

a switch assembly including N-1 switches to respectively couple and de-couple the N-1 capacitive elements to and from the load to charge or discharge the load in N-1 steps; and

an Nth switch to couple the load to a power supply voltage,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

98. A system for charging and discharging a capacitive load, comprising:

a discharge switch to discharge the load;

N-1 capacitive elements, N being greater than 1;

a switch assembly including N-1 switches to respectively couple and de-couple the N-1 capacitive elements to and from the load, said N-1 switches being closed and opened in succession for charging or discharging the load in N-1 steps; and

an Nth switch to couple the load to a power supply voltage,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

99. A system for charging and discharging a capacitive load, comprising:

a discharge switch to discharge the load;

N-1 capacitive elements, N being greater than 1;

a switch assembly including N-1 switches to respectively couple and de-couple the N-1 charge storage elements to and from the load for charging or discharging the load; and

an Nth switch to couple the load to a power supply voltage;

wherein first leads of each of said N-1 capacitive elements are connected together and wherein second leads of each of said N-1 capacitive elements are connected to respective ones of said N-1 switches,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

100. A system for at least one of charging and discharging a capacitive load in N steps, comprising:

N-1 capacitive elements, N being greater than 1; and

a switch assembly to selectively couple and de-couple the N-1 charge storage elements to and from the capacitive load,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

101. The system of claim 100, wherein the switch assembly includes N-1 switches, each coupled to a respective one of the N-1 capacitive elements.

102. The system of claim 100, further comprising a power supply switch to couple the capacitive load to a power supply.

103. The system of claim 100, further comprising a discharge switch to discharge the load capacitor.

104. The system of claim 100, wherein the switch assembly selectively couples and de-couples the N-1 capacitive elements to the capacitive load one at a time.

105. The system of claim 100, wherein each of the capacitive elements comprises a capacitor.

106. The system of claim 100, wherein $N \geq 2$.

107. The system of claim 100, wherein $N=2$.

108. A system for at least one of charging and discharging a capacitive load, comprising:

a plurality of capacitive elements; and

a switch assembly to selectively couple and de-couple the capacitive elements to and from the capacitive load one at a time,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

109. The system of claim 108, wherein the switch assembly includes a plurality of switches, each coupled to a respective one of the plurality of capacitive elements.

110. The system of claim 108, further comprising a power supply switch to couple the capacitive load to a power supply.

111. The system of claim 108, further comprising a discharge switch to discharge the load capacitor.

112. The system of claim 108, wherein each of the capacitive elements comprises a capacitor.

113. A system for at least one of charging and discharging a capacitive load, comprising:

a plurality of capacitive elements, each having a first lead and a second lead; and

a plurality of switches to selectively couple and de-couple the capacitive elements to and from the capacitive load,

wherein all of the first leads of the capacitive elements are connected together and wherein each of the second leads of the capacitive elements is connected to a respective one of the switches,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

114. The system of claim 113, further comprising a power supply switch to couple the capacitive load to a power supply.

115. The system of claim 113, further comprising a discharge switch to discharge the load capacitor.

116. The system of claim 113, wherein each of the capacitive elements comprises a capacitor.

117. A system for at least one of charging and discharging a capacitive load in a plurality of steps, comprising:

a plurality of capacitive elements, each capable of storing an amount of charge corresponding to a voltage across the capacitive element; and

a plurality of switches to selectively couple and de-couple the capacitive elements to and from the capacitive load,

wherein the voltages across said capacitive elements are self-stabilizing over a full charge/discharge cycle,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

118. A system for at least one of charging and discharging a capacitive load, comprising:

a capacitor having a first end coupled to a first potential source and a second end;

a first switch having a first end coupled to the second end of the capacitor and a second end coupled to the capacitive load, the second end of the capacitor not being coupled to any other component;

a second switch having a first end coupled to the first potential source and a second end coupled to the second end of the first switch and the capacitive load; and

a third switch having a first end coupled to a second potential source and a second end coupled to the second end of the first switch, the second end of the second switch, and the capacitive load,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

119. A system for charging and discharging a capacitive load comprising:

one or more capacitors; and

a switching system coupled to said capacitors and the load, said switching system configured to cause the capacitors to couple to the load; to cause the capacitors to derive substantially all of their charge from only the load during the discharging of the load; and to cause the capacitors to charge the load with charge from the capacitors,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

120. A method for charging and discharging a capacitive load comprising:

coupling one or more capacitors to the load;

charging the capacitors only with charge delivered from the load; and

charging the load with charge from the capacitors,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

121. A system for charging and discharging a capacitive load in N steps comprising:

N-1 capacitors, N being greater than 1; and

N-1 switches, each having a first and a second connection, each of said first connections being connected to only one of said capacitors,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

122. A method for repeatedly charging and discharging a capacitive load in a plurality of steps comprising:

selectively coupling one or more capacitors to the capacitive load during a first charging cycle and not transferring any substantial charge from the capacitors to the load during the first charging cycle; and

selectively coupling the capacitors to the load during a discharging cycle and transferring substantial charge to the capacitors from the load during the discharging cycle,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

123. The method of claim 122 further comprising:

selectively coupling the capacitors to the load during a second charging cycle and transferring substantial charge from the capacitors to the load during the second charging cycle.

124. The method of claim 123 during which the charge on each of the capacitors substantially stabilizes after the first charging and discharging cycle.

125. A method for repeatedly charging a capacitive load that is discharged between charges comprising:

charging the capacitive load in only one step during a first charging cycle; and

charging the capacitive load in a plurality of steps after the first charging cycle,

whereby energy is recovered from the capacitive load and whereby the recovered energy is always stored substantially only in capacitance.

126. The method of claim 125 further comprising discharging the capacitive load after the first charging cycle in a plurality of steps.

REMARKS

Request for Interview

Counsel for Applicant will be contacting the Examiner shortly to schedule an interview before the issuance of the initial Office Action.

History

This continuation reissue application is in response to the final Office Action, mailed August 11, 2000, in the parent to this case, serial number 08/986,327.

That final Office Action allowed Claim 81, but rejected Claims 1-80 based only on prior art.

Applicant's attorney asked to schedule an interview with the Examiner in the parent case (Examiner Adolf Berhane) to discuss this final Office Action. However, the Examiner declined to grant this interview in view of an earlier interview and the stage of the case.

Applicant's attorney then spoke with the Examiner to discuss how best to proceed. It was agreed that Applicant would pursue the rejected Claims 1-80 in a new continuation reissue application and would then file an amendment in the parent case canceling rejected Claims 1-80 so that allowed Claim 81 could issue without further delay.

Purpose of this Preliminary Amendment

Applicant is filing this Preliminary Amendment to reassert the claims that were rejected in the parent case, i.e., Claims 1-80. All of the claims as originally filed in the parent reissue application have been cancelled. New claims 47-126 have been added. These claims are the same (except for the numbering) as claims 1-80 as currently pending and rejected in the parent application. Applicant is also providing the following remarks in response to the prior final Office Action and in support of these claims, and a Rule 132 Declaration ("Rule 132 Declaration") from one of the inventors who is an expert in the field, is filed herewith. (The claim 30 mentioned therein corresponds to claim 76 added above.)

Nature of outstanding rejection

The Examiner in the above-mentioned final Office Action rejected Claims 1-80 under 35 USC 103(a) as being unpatentable over Applicant's admitted prior art (Fig. 2 in the reissue application) in view of *Masuda et al.* (U.S. Patent 4,107,757). The Examiner stated that "*Masuda et al.* . . . teach[es] that a charge storage element as C1 in figure 1 can be used as a voltage source" and "[t]herefore it would have been obvious ... to replace the voltage source of Applicant's admitted prior art figure 2 with the charge storage element in order to provide steady and cost effective power source."

Applicant respectfully disagrees.

Analysis

Applicant has never disputed that a charged capacitor was a known source of voltage. But this is <u>not</u> responsive to the limitation that is recited in the pending patent claims. What had not been disclosed or suggested was a system of the type here that recovered energy from a capacitive load and stored that recovered energy "substantially <u>only</u> in capacitance"[1] (emphasis added), as now required by every pending claim.

Masuda et al. plainly does not meet this claim requirement. As explained in the Rule 132 Declaration in more detail, the capacitor C1 in *Masuda et al.* was only <u>part</u> of their energy storage system. The other part was the energy-storing inductor L. As shown in Figure 1 of *Masuda et al.*, the two are connected in series. They form a "series resonant circuit" for "generating transient oscillations." *See* Abstract.

In order to shuttle energy back and forth between the load 20 and C1 in *Masuda et al.*, the sine-wave-shaped current through the inductor must be interrupted at the very moment it crosses zero. Otherwise, noisy and undesirable ringing and high voltage transients would result. As a practical matter, however, this is difficult to do. It requires precise timing circuitry and, even with this, can be noisy and create high voltage transients.

---

[1] The phrase "substantially only in capacitance" is intended to embrace capacitive systems that have a small amount of inductance due to stray or parasitic inductance or even the intentional inclusion of a small discreet inductor. What is intended to be excluded are systems such as *Masuda* et al. in which a large portion of the recovered energy is stored in inductance at some point during the recycling process.

The present invention, on the other hand, shuttles current between the load 12 and the storage capacitor 18 without any ringing, high voltage transients or critical timing circuitry. The necessary differential between the load voltage and the tank capacitor 18 is created by a totally different mechanism -- switching in the higher potential source V -- not by generating transient oscillations.

A good analogy to *Masuda* is a very large source water tank for the source capacitor C_1, a small load water tank for the load 20, a pump with a heavy rotator for the inductor L, a filling valve for the switch S_0, and an emptying valve for the switch S_1.

Initially, the source tank is half full, the load tank is empty, and the valves are closed. To begin filling the load tank, the filling valve is opened. The higher water level in the source tank causes a pressure that forces the water through the pump and into the load tank. In the meantime, the pump rotator begins to rotate and picks up speed. When the load tank becomes half full, the level of the water in the source and load tank become equal. Yet, the heavy rotator in the pump keeps rotating due to inertia, causing additional water to be drawn from the source tank into the load tank. The pump will stop just about when the load tank is full. The filling valve is then closed.

When it is time to empty the load tank, the emptying valve is opened and the same process repeats in reverse.

Just like the inductor in *Masuda*, however, the pump in this analogy is bulky and expensive. Just like with *Masuda*, however, there is no suggestion in this analogy of a way to eliminate the pump. To the contrary, and also just like *Masuda*, the system would not even work if the pump were eliminated. The load tank would fill half way and then could not be emptied without wasting water (energy in *Masuda*), e.g. by drilling a hole in the bottom of the load tank.

In short, combining the teachings of *Masuda et al.* with the admitted prior art would not result in a system in which energy was "always stored substantially <u>only</u> in capacitance" (emphasis added), as now required in every patent claim. Neither *Masuda et al.* nor the admitted prior art teaches this important feature, either alone or in combination.

The Federal Circuit has also repeatedly made clear that there must be a suggestion or motivation to combine the prior art in the manner of the invention to support an obviousness rejection:

> Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.

In re Dembiczak, 175 F.3d 994, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999) (determination of obviousness reversed). A naked allegation that a feature was "widely known" is also not sufficient:

> Dr. Rodriguez testified that it was "widely known" when she was in graduate school that micronized drugs could be blended with spray-dried lactose to achieve good content uniformity and good dissolution; no documentary support is shown for this statement. Such recollections by an expert witness, when challenged, particularly of asserted general scientific knowledge, require support by documentary evidence in order to receive probative weight.

Upjohn Co. v. Mova Pharmaceutical Corp., 225 F.3d 1306, 56 U.S.P.Q.2d 1286 (Fed. Cir. 2000).

Here, there was no suggestion in the prior art to modify the series resonant circuit in *Masuda* to eliminate the inductor. To the contrary, and as noted above, *Masuda* would not even conserve energy work with such a change. Further, and as also established by the Rule 132 Declaration, replacing supplies in the admitted prior art (Figure 2) with capacitors was a change that even experts thought would not work. (It took complex mathematical calculations to prove these experts wrong. *See* Startup Energies in Energy-Recovery CMOS (Ex. 2 to the Rule 132 Declaration).) Leaving the inductor out was viewed as so innovative that this change was recited as the title of a contemporaneous article about the invention: "Adiabatic charging without inductors." (Ex. 3 to the Rule 132 Declaration).

The claimed invention was not obvious in view of *Masuda et al.* and the admitted prior art, and allowance of the claims is in order.

It is respectfully requested that the Patent Office take the foregoing into account when calculating the filing fees and that Examiner take it into account when examining this continuation reissue application.

Respectfully submitted,

Dated: January 10, 2001

Marc E. Brown
Registration No. 28,590
By DOUGLAS N. LARSON
REG. NO. 29,401

OPPENHEIMER WOLFF & DONNELLY LLP
2029 Century Park East, Suite 3800
Los Angeles, California 90067-3024
(310) 788-5000 Telephone
(310) 788-5100 Facsimile

*PATENT
ATTORNEY DOCKET NO. 06666/013001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Svensson, *et al.*
Title : SYSTEM AND METHOD FOR POWER-EFFICIENT CHARGING AND DISCHARGING OF A CAPACITIVE LOAD FROM A SINGLE SOURCE

Application for Reissue of U.S. Patent No. 5,473,526
Issued : December 5, 1995

Commissioner of Patents and Trademarks
Washington, DC 20231

REQUEST FOR TRANSFER OF DRAWINGS

Pursuant to 37 C.F.R. 1.174 and MPEP 1413, Applicants, by their undersigned attorney requests the transfer of the patent drawings from the original patent file to the reissue application.

The accompanying reissue application makes no alteration whatsoever to the drawings, does not cancel an entire sheet or sheets and furthermore does not add additional sheets of drawings.

"EXPRESS MAIL" Mailing Label Number EM367761948US
Date of Deposit 12/5/97
I hereby certify under 37 CFR 1.10 that this correspondence is being deposited with the United States Postal Service as "Express Mail Post Office To Addressee" with sufficient postage on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Amy M. Hunt